ENGINEERING ALTERNATIVES OF WNYU-FM

WNYU has been presented with two alternatives as a result of the April 27 decision of the Federal Communications Commission with respect to the disposition of channel 206. Since the Commission has ruled that any proposed transmissions by New York University on that channel must not interfere with a station on channel 208 (WSOU, Seton Hall University, South Orange, New Jersey), the proposed operation of WNYU-FM at a power of 7600 watts, non-directional, is impossible.

The alternatives are to reduce the proposed power, while remaining non-directional, or to modify the directionality of our proposed transmissions while still transmitting at the originally-proposed power.

Reduction of our proposed power while remaining non-directional would mean that WNYU-FM would operate at a power of 1200 watts, instead of the originally-proposed power of 7600 watts. The originally-proposed operation would have given a primary coverage radius of sufficient size to reliably cover all of New York City, Northeastern New Jersey, Southern Westchester and Rockland Counties, Nassau County, and Southwestern Connecticut. The secondary coverage radius would have encompassed an area of 50 miles from University Heights. The reduction in power would give a primary coverage radius *not including* most of Brooklyn, Manhattan below about Washington Square, Eastern Queens, and so on. The secondary coverage radius would be about 25 miles.

Modification of the radiation pattern would allow WNYU-FM to reduce the radiation in the direction of WSOU (to a strength equivalent to 1200 watts) while still radiating with the originally-intended strength in all other directions. This

means that the potential coverage in Northern New Jersey would be reduced from the original proposal; we would only cover, at best, 25 miles in the Southwest direction. However, we would still reach-out 50 miles in all other directions.

Consideration must now be given to the comparative costs of the two alternatives.

Reduction of our originally-proposed power would mean that WNYU-FM could purchase a smaller transmitter, resulting in a saving of approximately $5000. Modification of the application to the Federal Communications Commission could be done relatively easily by the student staff of WNYU. It would be necessary for a representative of WNYU to fly to Washington, D. C., to obtain the necessary technical information from the records of the F. C. C.

Modification of the radiation pattern would mean the necessity of purchasing a much more complex antenna than originally budgeted for. Initial estimates obtained indicate an additional cost of approximately $7000 to $8000. Although it had originally been thought that a Consulting Engineer might have to be retained, a discussion with Commission Engineer Edward Hackman on May 3 indicated that this was not necessary as long as sufficient information is obtained from the antenna manufacturer for certification of the antenna. Mr. Hackman also indicated that previous directional antenna systems had been approved for Educational FM stations, and that there would most probably be no problem if we should so apply.

As far as cost is concerned, then, we are comparing an additional cost of at most $10,000 for a directional system with a saving of $5000 for a reduced-power system.

It is, of course, the final decision of the President's office as to which alternative is selected. However, it is the opinion of the Technical Advisor to WNYU that the University would very quickly regret a decision to reduce power. Much of the value of WNYU-FM would lie in its ability to reach the alumni and friends of the University through the Greater New York Metropolitan Area. Operation at 1200 watts would mean that most of the potential suburban listeners could not receive the station. In addition, those living in difficult reception areas, where a really strong signal is necessary to penetrate successfully, would have difficulty receiving the station. Having already committed itself to an expenditure of $50,000, it seems inadvisable for the University to save 10 percent at the sacrifice of perhaps 60 percent of its station's potential audience.

Respectfully submitted,

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